

REMARKS

In response to the Official Office Action dated October 4, 2005, claims 1-46 have been cancelled. New claims 47-54 have been added. Reexamination of this application in light of the amendments is respectfully requested.

Applicants' invention relates to an interworking function connected between a conventional TDMA network according to the TIA/EIA-136 standard, and a GPRS network to permit packet data services using circuit-switched channels in the TIA/EIA-136 network. The invention is advantageous to service providers that want to provide packet data services to their customers. In areas where there is a high demand for packet data services, the service provider may invest in a GPRS infrastructure to provide packet data services over a 200 kHz frequency channel. However, there may be some areas where the demand for packet data services does not warrant the investment in additional infrastructure. The interworking function allows packet data to be routed between the GPRS network and the mobile station via the circuit-switched network and transmitted to the mobile station over a conventional circuit-switched channel.

The prior art made of record by the Examiner does not teach or suggest the invention set forth in the new claims. The application to Mazur et al. discloses a communication network including a circuit-switched network and a packet-switched network. The circuit-switched network is used for voice communications and the packet-switched network is used for packet data communications. Mazur discloses a method of transmitting voice over the packet data network. Mazur does not teach or suggest transferring packet data between the GPRS network and mobile station via the circuit-switched network.

Haeggstrom, U.S. Patent No. 6,167,040, discloses various methods for sending voice from a mobile station to terminal equipment connected to a data network. In one embodiment, the voice is transmitted as packet data over a GPRS network. In another embodiment, the

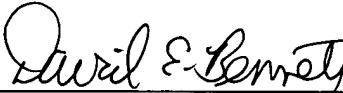
voice is transmitted in conventional fashion via a circuit-switched network to an IP/PSTN gateway. The voice data is converted to packet data at the gateway. Haeggstrom does not teach or suggest sending packet data between a GPRS network and mobile station through a circuit-switched network.

The Forslow publication, 2003/0039237, discloses a communication network including a circuit-switched network and packet-switched network. Forslow discloses the broad concept of transferring packet data between the GPRS network and mobile station via a circuit-switched (GSM) network. However, Forslow differs from Applicants' invention in several respects. First, both the circuit-switched network and packet-switched network in Forslow use the same channel structure. In contrast, the present invention relates to a method of interconnecting heterogeneous networks with different channel structures. In the claimed invention, the TDMA network uses 30 kHz channels, while the GPRS network uses 200 kHz channels. Second, the Forslow publication discloses an end-to-end connection between the mobile station and gateway GPRS support node (GGSN) in the GPRS network, using the point-to-point protocol (PPP). A data access unit (DAU) at the MSC tunnels data toward the GGSN. In contrast, the claimed invention comprises an interworking function having a teleservice server that functions as an intermediary between a serving gateway support node (SGSN) in the GPRS network and the mobile station. Forslow does not teach or suggest an interworking function having a teleservice server as claimed. Further, Forslow appears to teach away from the claimed invention because Forslow teaches that the mobile station should establish an end-to-end connection with the GGSN. Accordingly, the claimed invention would not be obvious in view of Forslow.

Based on the foregoing, it is respectfully urged that the present application is in condition for allowance and notice to such effect is respectfully requested.

Respectfully submitted,

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